

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1. (Currently amended) A method for automatically selecting and assigning non-overlapping private IP addresses comprising:

 setting an internal address space to a default private IP address space, wherein IP addresses from a private address space are not directly accessible from the public internet;

 receiving a provider private IP address and range;

 determining if the default private IP address space overlaps with the provider private IP address and range; and

 selecting a largest available non-overlapping private IP address space if the default private IP address space overlaps with the provider private IP address and range.
2. (Previously Presented) The method of claim 1 further comprising:

 requesting the provider private IP address and range.
3. (Previously Presented) The method of claim 1 wherein the selecting further comprises iterating through each available private IP address space to find the largest available non-overlapping private IP address space.
4. (Previously Presented) The method of claim 1 further comprising:

selecting from the default IP address space a private IP address and assigning the selected private IP address to a network device if the default private IP address space does not overlap with the provider private IP address and range.

5. (Previously Presented) The method of claim 1 further comprising:

selecting a private IP address from the largest available non-overlapping private IP address space and assigning the selected private IP address to a network device if the default private IP address space overlaps with the provider private IP address and range.

6. (Currently amended) A system for automatically selecting and assigning non-overlapping private IP addresses comprising:

means for setting an internal address space to a default private IP address space, wherein IP addresses from a private address space are not directly accessible from the public internet;

means for receiving a provider private IP address space;

means for determining if the default private IP address space overlaps with the provider private IP address space; and

means for selecting a largest available non-overlapping private IP address space if the default private IP address space overlaps with the provider private IP address space.

7. (Original) The system of claim 6 further comprising means for iterating through available private IP address space to find the largest available non-overlapping private IP address space if the default private IP address space overlaps with the provider private IP address space.

8. (Original) The system of claim 6 further comprising means for selecting from the default IP address space a private IP address, and assigning the selected private IP address to a network device if the default private IP address space does not overlap with the provider private IP address space.

9. (Original) The system of claim 6 further comprising means for selecting a private IP address from the largest available non-overlapping private IP address space and assigning the selected private IP address to a network device if the default private IP address space overlaps with the provider private IP address space.

10. (Currently amended) A machine readable medium having embodied thereon a program being executable by a machine to perform operations for selecting and assigning non-overlapping private IP addresses, the operations method steps comprising:

setting an internal address space to a default private IP address space, wherein IP addresses from a private address space are not directly accessible from the public internet;

receiving a provider private IP address space;

determining if the default private IP address space overlaps with the provider private IP address space; and

if the default private IP address space overlaps with the provider private IP address space, then selecting a largest available non-overlapping private IP address space.

11. (Previously Presented) The machine readable medium of claim 10 further comprising the operation of iterating through available private IP address space to find the largest available non-

overlapping private IP address space if the default private IP address space overlaps with the provider private IP address space.

12. (Previously Presented) The machine readable medium of claim 10 further comprising the operations of selecting from the default IP address space a private IP address and assigning the selected private IP address to a network device if the default private IP address space does not overlap with the provider private IP address space.

13. (Previously Presented) The machine readable medium of claim 10 further comprising the operations of selecting a private IP address from the largest available non-overlapping private IP address space and assigning the selected private IP address to a network device if the default private IP address space overlaps with the provider private IP address space.

14. (Currently amended) An apparatus capable of automatically selecting and assigning non-overlapping private IP addresses to devices within a local network, comprising:

an IP module, the IP module setting an internal address space to a default address space, wherein IP addresses from a private address space are not directly accessible from the public internet;

a client module coupled to the IP module for determining a private IP address assigned to a gateway device; and

a server module coupled to the IP module for automatically assigning a non-overlapping private IP address to a network device.

15. (Original) The apparatus of claim 14 wherein the client module is a Dynamic Host Configuration Protocol client.
16. (Original) The apparatus of claim 14 wherein the client module is a Point-to-Point Protocol client.
17. (Original) The apparatus of claim 14 wherein the server module is a Dynamic Host Configuration Protocol server.
18. (Original) The apparatus of claim 14 wherein the IP module determines if the default private IP address space overlaps with the private IP address assigned to the gateway device.
19. (Original) The apparatus of claim 18 wherein the IP module iterates through available private IP address space to find a largest available non-overlapping private IP address space if the default private IP address space overlaps with the private IP address assigned to the gateway device.
20. (Previously Presented) The apparatus of claim 18 wherein the apparatus is the gateway device.
21. (Previously Presented) The apparatus of claim 18 wherein the apparatus is sever of an Internet Service Provider.